

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Feng, Lili
Chen, Sizhong
Xia, Yiyang
- (ii) TITLE OF INVENTION: DIAGNOSTIC AND THERAPEUTIC METHODS
RELATED TO REGULATING ENERGY MOBILIZATION WITH OB PROTEIN
AND OB ANTIBODIES
- (iii) NUMBER OF SEQUENCES: 11
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Olson & Hierl, Ltd.
 - (B) STREET: 20 North Wacker Drive, 36th Floor
 - (C) CITY: Chicago
 - (D) STATE: IL
 - (E) COUNTRY: US
 - (F) ZIP: 60606
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE: 04-JUN-1997
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/018,972
 - (B) FILING DATE: 04-JUN-1996
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Olson, Arne M
 - (B) REGISTRATION NUMBER: 30,203
 - (C) REFERENCE/DOCKET NUMBER: TSRI540.1PCT
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 312-580-1180
 - (B) TELEFAX: 312-580-1189

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 2793 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGATCCCTGC TCCAGCAGCT GCAAGGTGCA AGAAGAAGAA GATCCCAGGG AGGAAAATGT	60
GCTGGAGACC CCTGTGTCGG TTCCTGTGGC TTTGGTCCTA TCTGTCTTAT GTTCAAGCAG	120
TGCCTATCCA GAAAGTCCAG GATGACACCA AAACCCTCAT CAAGACCATT GTCACCAGGA	180
TCAATGACAT TTCACACACG CAGTCGGTAT CCGCCAAGCA GAGGGTCACT GGCTTGGA	240
TCATTCCCTGG GCTTCACCCC ATTCTGAGTT TGTCCAAGAT GGACCAGACT CTGGCAGTCT	300
ATCAACAGGT CCTCACCAGC CTGCCTTCCC AAAATGTGCT GCAGATAGCC AATGACCTGG	360
AGAATCTCCG AGACCTCCTC CATCTGCTGG CCTTCTCCAA GAGCTGCTCC CTGCCTCAGA	420
CCAGTGGCCT GCAGAAGCCA GAGAGCCTGG ATGGCGTCCT GGAAGCCTCA CTCTACTCCA	480
CAGAGGTGGT GGCTTTGAGC AGGCTGCAGG GCTCTCTGCA GGACATTCTT CAACAGTTGG	540
ATGTTAGCCC TGAATGCTGA AGTTTCAAAG GCCACCAGGC TCCCAAGAAT CATGTAGAGG	600
GAAGAAACCT TGGCTTCCAG GGGTCTTCAG GAGAAGAGAG CCATGTGCAC ACATCCATCA	660
TTCATTTCTC TCCCTCCTGT AGACCACCCA TCCAAAGGCA TGA	720
CTCCACA ATGCTTGACT	780
CAAGTTATCC ACACA	840
ACTTTC CAGCAAGTAG AGATAAGAGC CATCCCATCC CCTCCATGTC CCACCTGCTC	900
CGGGTACATG TTCCTCCGTG GGTACACGCT TCGCTGCGGC CCAGGAGAGG TGAGGTAGGG	960
ATGGGTAGAG CCTTTGGGCT GTCTCAGAGT CTTTGGGAGC ACCGTGAAGG CTGCATCCAC	1020
ACACAGCTGG AA	1080
ACTCCAA GCAGCACACG ATGGAAGCAC TTATTTATTT ATTCTGCATT	1140
CTATTTTGG	1200
TGA TGGATCTGAA GCAAGGCATC AGCTTTTTTCA GGCTTTGGGG GTCAGCCAGG	1260
ATGAGGAAGG CTCCTGGGGT GCTGCTTTCA ATCCTATTGA TGGGTCTGCC CGAGGCAAAC	1320
CTAATTTT	1380
TG AGTGACTGGA AGGAAGGTTG GGATCTTCCA AACAAGAGTC TATGCAGGTA	1440
GCGCTCAAGA TTGACCTCTG GTGACTGGTT TTGTTTCTAT TGTGACTGAC TCTATCCAAA	1500
CACGTTTGCA GCGGCATTGC CGGGAGCATA GGCTAGGTTA TTATCAAAG CAGATGAATT	1560
TTGTCAAGTG TAATATGTAT CTATGTGCAC CTGAGGGTAG AGGATGTGTT AGAGGGAGGG	1620
TGAAGGATCC GGAAGTGTT TCTGAATTAC ATATGTGTGG TAGGCTTTTC TGAAAGGGTG	1680
AGGCATTTTC TTACCTCTGT GGCCACATAG TGTGGCTTTG TGAAAAGGAC AAAGGAGTTG	
ACTCTTTCCG GAACATTTGG AGTGTACCAG GCACCCTTGG AGGGGCTAAA GCTACAGGCC	
TTTTGTTGGC ATATTGCTGA GCTCAGGGAG TGAGGGCCCC ACATTTGAGA CAGTGAGCCC	
CAAGAAAAGG GTCCCTGGTG TAGATCTCCA AGGTTGTCCA GGGTTGATCT CACAATGCGT	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 3862 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Mus musculus

GTCGACCCAC GCGTCCGGAG GAATCGTTCT GCAAATCCAG GTGTACACCT CTGAAGAAAG 60
 ATGATGTGTC AGAAATTCTA TGTGGTTTTG TTACACTGGG AATTTCTTTA TGTGATAGCT 120

GCACTTAACC	TGGCATATCC	AATCTCTCCC	TGGAAATTTA	AGTTGTTTTG	TGGACCACCG	180
AACACAACCG	ATGACTCCTT	TCTCTCACCT	GCTGGAGCCC	CAAACAATGC	CTCGGCTTTG	240
AAGGGGGCTT	CTGAAGCAAT	TGTTGAAGCT	AAATTTAATT	CAAGTGGTAT	CTACGTTCCT	300
GAGTTATCCA	AAACAGTCTT	CCACTGTTGC	TTTGGGAATG	AGCAAGGTCA	AAACTGCTCT	360
GCACTCACAG	ACAACACTGA	AGGGAAGACA	CTGGCTTCAG	TAGTGAAGGC	TTCAGTTTTT	420
CGCCAGCTAG	GTGTAAACTG	GGACATAGAG	TGCTGGATGA	AAGGGGACTT	GACATTATTC	480
ATCTGTCATA	TGGAGCCATT	ACCTAAGAAC	CCCTTCAAGA	ATTATGACTC	TAAGGTCCAT	540
CTTTTATATG	ATCTGCCTGA	AGTCATAGAT	GATTCGCCTC	TGCCCCACT	GAAAGACAGC	600
TTTCAGACTG	TCCAATGCAA	CTGCAGTCTT	CGGGGATGTG	AATGTCATGT	GCCGGTACCC	660
AGAGCCAAAC	TCAACTACGC	TCTTCTGATG	TATTTGGAAG	TCACATCTGC	CGGTGTGAGT	720
TTTCAGTCAC	CTCTGATGTC	ACTGCAGCCC	ATGCTTGTTG	TGAAACCCGA	TCCACCCTTA	780
GGTTTGATA	TGGAAGTCAC	AGATGATGGT	AATTTAAAGA	TTTCTTGGGA	CAGCCAAACA	840
ATGGCACCAT	TTCCGCTTCA	ATATCAGGTG	AAATATTTAG	AGAATTCTAC	AATTGTAAGA	900
GAGGCTGCTG	AAATTGTCTC	AGCTACATCT	CTGCTGGTAG	ACAGTGTGCT	TCCTGGATCT	960
TCATATGAGG	TCCAGGTGAG	GAGCAAGAGA	CTGGATGGTT	CAGGAGTCTG	GAGTGACTGG	1020
AGTTCACCTC	AAGTCTTTAC	CACACAAGAT	GTTGTGTATT	TTCCACCCAA	AATTCTGACT	1080
AGTGTTGGAT	CGAATGCTTC	TTTTCATTCG	ATCTACAAAA	ACGAAAACCA	GATTATCTCC	1140
TCAAAACAGA	TAGTTTGGTG	GAGGAATCTA	GCTGAGAAAA	TCCCTGAGAT	ACAGTACAGC	1200
ATTGTGAGTG	ACCGAGTTAG	CAAAGTTACC	TTCTCCAACC	TGAAAGCCAC	CAGACCTCGA	1260
GGGAAGTTTA	CCTATGACGC	AGTGTAATGC	TGCAATGAGC	AGGCGTGCCA	TCACCGCTAT	1320
GCTGAATTAT	ACGTGATCGA	TGTCAATATC	AATATATCAT	GTGAAACTGA	CGGGTACTTA	1380
ACTAAAATGA	CTTGACAGATG	GTCACCCAGC	ACAATCCAAT	CACTAGTGGG	AAGCACTGTG	1440
CAGCTGAGGT	ATCACAGGCG	CAGCCTGTAT	TGTCCTGATA	GTCCATCTAT	TCATCCTACG	1500
TCTGAGCCCA	AAAAGTGCCT	CTTACAGAGA	GACGGCTTTT	ATGAATGTGT	TTTCCAGCCA	1560
ATCTTTCTAT	TATCTGGCTA	TACAATGTGG	ATCAGGATCA	ACCATTCTTT	AGGTTCACCT	1620
GACTCGCCAC	CAACGTGTGT	CCTTCCTGAC	TCCGTAGTAA	AACCACTACC	TCCATCTAAC	1680
GTAAAAGCAG	AGATTACTGT	AAACACTGGA	TTATTGAAAG	TATCTTGGGA	AAAGCCAGTC	1740
TTTCCGGAGA	ATAACCTTCA	ATTCCAGATT	CGATATGGCT	TAAGTGGAAG	AGAAATACAA	1800
TGGAAGACAC	ATGAGGTATT	CGATGCAAAG	TCAAAGTCTG	CCAGCCTGCT	GGTGTGAGAC	1860
CTCTGTGCAG	TCTATGTGGT	CCAGGTTTCG	TGCCGGCGGT	TGGATGGACT	AGGATATTGG	1920
AGTAATTGGA	GCAGTCCAGC	CTATACGCTT	GTCATGGATG	TAAAAGTTCC	TATGAGAGGG	1980

CCTGAATTTT	GGAGAAAAAT	GGATGGGGAC	GTTACTAAAA	AGGAGAGAAA	TGTCACCTTG	2040
CTTTGGAAGC	CCCTGACGAA	AAATGACTCA	CTGTGTAGTG	TGAGGAGGTA	CGTGGTGAAG	2100
CATCGTACTG	CCCACAATGG	GACGTGGTCA	GAAGATGTGG	GAAATCGGAC	CAATCTCACT	2160
TTCCTGTGGA	CAGAACCAGC	GCACACTGTT	ACAGTTCTGG	CTGTCAATTC	CCTCGGCGCT	2220
TCCCTTGTGA	ATTTTAACCT	TACCTTCTCA	TGGCCCATGA	GTAAAGTGAG	TGCTGTGGAG	2280
TCACTCAGTG	CTTATCCCCT	GAGCAGCAGC	TGTGTCATCC	TTTCCTGGAC	ACTGTCACCT	2340
GATGATTATA	GTCTGTTATA	TCTGGTTATT	GAATGGAAGA	TCCTTAATGA	AGATGATGGA	2400
ATGAAGTGGC	TTAGAATTCC	CTCGAATGTT	AAAAAGTTTT	ATATCCACGA	TAATTTTATT	2460
CCCATCGAGA	AATATCAGTT	TAGTCTTTAC	CCAGTATTTA	TGGAAGGAGT	TGGAAAACCA	2520
AAGATAATTA	ATGGTTTCAC	CAAAGATGCT	ATCGACAAGC	AGCAGAATGA	CGCAGGGCTG	2580
TATGTCATTG	TACCCATAAT	TATTTCTCT	TGTGTCCTAC	TGCTCGGAAC	ACTGTTAATT	2640
TCACACCAGA	GAATGAAAAA	GTTGTTTTGG	GACGATGTTT	CAAACCCCAA	GAATTGTTCC	2700
TGGGCACAAG	GACTGAATTT	CCAAAAGCCT	GAAACATTTG	AGCATCTTTT	TACCAAGCAT	2760
GCAGAATCAG	TGATATTTGG	TCCTCTTCTT	CTGGAGCCTG	AACCCATTTC	AGAAGAAATC	2820
AGTGTGCGATA	CAGCTTGGA	AAATAAAGAT	GAGATGGTCC	CAGCAGCTAT	GGTCTCCCTT	2880
CTTTTGACCA	CACCAGACCC	TGAAAAGCAGT	TCTATTTGTA	TTAGTGACCA	GTGTAACAGT	2940
GCTAACTTCT	CTGGGTCTCA	GAGCACCCAG	GTAACCTGTG	AGGATGAGTG	TCAGAGACAA	3000
CCCTCAGTTA	AATATGCAAC	TCTGGTCAGC	AACGATAAAC	TAGTGGA AAC	TGATGAAGAG	3060
CAAGGGTTTA	TCCATAGTCC	TGTCAGCAAC	TGCATCTCCA	GTAATCATT	CCCACTGAGG	3120
CAGTCTTTCT	CTAGCAGCTC	CTGGGAGACA	GAGGCCCAGA	CATTTTTCT	TTTATCAGAC	3180
CAGCAACCCA	CCATGATTTC	ACCACAACCT	TCATTCTCGG	GGTTGGATGA	GCTTTTGGAA	3240
CTGGAGGGAA	GTTTTCTCTGA	AGAAAATCAC	AGGGAGAAGT	CTGTCTGTTA	TCTAGGAGTC	3300
ACCTCCGTCA	ACAGAAGAGA	GAGTGGTGTG	CTTTTACTG	GTGAGGCAGG	AATCCTGTGC	3360
ACATTCCCAG	CCCAGTGTCT	GTTCACTGAC	ATCAGGATCC	TCCAGGAGAG	ATGCTCACAC	3420
TTTGTAGAAA	ATAATTGAG	TTTAGGGACC	TCTGGTGAGA	ACTTTGTACC	TTACATGCCC	3480
CAATTTCAAA	CCTGTTCCAC	GCACAGTCAC	AAGATAATGG	AGAATAAGAT	GTGTGACTTA	3540
ACTGTGTAAT	CTCATCCAAG	AAGCCTCAAG	GTTCCATTCC	AGTAGAGCCT	GTCATGTATA	3600
ATGTGTTCTT	TTATTGTTGT	GGATGTGGGA	GACAAGTGTC	AGAATCTAGT	GTGAAAATGA	3660
TTGTTTCCAA	ACTAAGTGTG	TCTATTTTCT	CTCAGTAATA	CAATGAAACA	TATGAGGAAG	3720
CCCTCATTA	TCTAGTAATG	TAGATGGACT	CTTACTGAAT	ATATTCCCAA	GATACTTGGG	3780
GAAGTCTCCC	TAATTCTAGC	TAAAAATAAA	CCCAGGAATA	GAAGTACTAA	AACTGGAATC	3840

TGGAAAAAAAA AAAAAAAAAA AG

3862

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1974 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

AAGTCTCCAG GGCAGAGAGG GAGTCAACTC ATTGGCGCTT GAGTCGGCAA AGAAATCAAG	60
ATGGCCAAAG TTCCTGACTT GTTTGAAGAC CTAAAGAACT GTTACAGTGA AAACGAAGAC	120
TACAGTTCTG CCATTGACCA TCTCTCTCTG AATCAGAAAT CCTTCTATGA TGCAAGCTAT	180
GGCTCACTTC ATGAGACTTG CACAGATCAG TTTGTATCTC TGAGAACCTC TGAAACGTCA	240
AAGATGTCCA ACTTCACCTT CAAGGAGAGC CGGGTGACAG TATCAGCAAC GTCAAGCAAC	300
GGGAAGATTC TGAAGAAGAG ACGGCTGAGT TTCAGTGAGA CCTTCACTGA AGATGACCTG	360
CAGTCCATAA CCCATGATCT GGAAGAGACC ATCCAACCCA GATCAGCACC TTACACCTAC	420
CAGAGTGATT TGAGATACAA ACTGATGAAG CTCGTCAGGC AGAAGTTTGT CATGAATGAT	480
TCCCTCAACC AACTATATA TCAGGATGTG GACAAACACT ATCTCAGCAC CACTTGGTTA	540
AATGACCTGC AACAGGAAGT AAAATTTGAC ATGTATGCCT ACTCGTCGGG AGGAGACGAC	600
TCTAAATATC CTGTTACTCT AAAAATCTCA GATTCACAAC TGTTCTGTGAG CGCTCAAGGA	660
GAAGACCAGC CCGTGTTGCT GAAGGAGTTG CCAGAAACAC CAAAACTCAT CACAGGTAGT	720
GAGACCGACC TCATTTTCTT CTGGAAAAGT ATCAACTCTA AGAACTACTT CACATCAGCT	780
GCTTATCCAG AGCTGTTTAT TGCCACCAAA GAACAAAGTC GGGTGCACCT GGCACGGGGA	840
CTGCCCTCTA TGACAGACTT CCAGATATCA TAAAAGCAGC CTTATTTTCGG GAGTCTATTC	900
ACTTGGAAG TGCTGACAGT CTGTATGTAC CATGTACAGG AACCTTCCTC ACCCTGAGTC	960
ACTTGACAG CATGTGCTGA GTCTCTGTAA TTCTAAATGA ATGTTTACCC TCTTTGTAAG	1020
AGAAGAGCAA ACCCTAGTGG AGCCACCCCG ACATATGATA CTATCTGTTA TTTTAAAGAG	1080
TACCCTATAG TTTGCTCAGT ACTAATCATT TTAATTACTA TTCTGCATGG CATTCTTAGG	1140
AGGATCAAAA AGACTCTACA CATATTACAG ATGGGTTAAC AAAGGGATAA AACAACTGAA	1200

AAGCACACTC AATGCATTTG GAATATAAAT TCACAGACCA ATCTCACTGT GCACCTTCGG 1260
 CTTCAAAATG CCAGTTGAGT AGGATAAAGG TATAAGAACT TAATGCTGTC ATTTTCAAAA 1320
 GGAAGGGGAC AATAGCTACA TCTTTCCTAC CTCAGTGGGT TTTACTCCAG TGAGATCATT 1380
 TGGATGAAAT CCTCCTGTAA CAGACCTCAA GAAGGAGACA GACTGTTGAA TGTTATTTTT 1440
 AAGTTATTTT ATATATGTAT TTATAAATAT ATTTATGATA ATTATATTAT TTATGGAACA 1500
 TCCTTAAATC CTCTGAGCTT GACAGGCATC CTCACAGCAG GATTTTCTAG GTGGTCAGTT 1560
 AGATATAGTT TCCTCTAGAG CACCATGCTA CAGACTTTAC ACTTTTTCCTA CAGCCACGAA 1620
 GCTCTCTGTA CATTCCTGTA CTTGGGAGCC CTTTCATCAT GATCTTAATC TGTACTGTTT 1680
 ACTTTGTTCA TCTAAAATGA TAATTGAGTC AGTCTTTTTC CCTCCCATCC TTAAAGCTGT 1740
 CTGGGTATTC TTACATCATT CAGTCTCACC TGTAACCTAAC ACCAACCATC TAAAGATGGA 1800
 AAGAGCTTAA CTGTGACAAC CACATCACTG TTACCTGAAG TTTCTTTTCT AGAATGTAAT 1860
 CAGTGTTTCC CCTGGATTCC AATTTTTTTT TCAAACCACA GTATCATGTA ACTATCAACA 1920
 ATAACAATCA ACTCATTATT ATTAATCATA ATTAAATAAA ACAAGTTTGA GCTG 1974

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1339 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

TGCAGGGTTC GAGGCCTAAT AGGCTCATCT GGGATCCTCT CCAGCCAAGC TTCCTTGTGC 60
 AAGTGTCTGA AGCAGCTATG GCAACTGTTC CTGAACTCAA CTGTGAAATG CCACCTTTTG 120
 ACAGTGATGA GAATGACCTG TTCTTTGAAG TTGACGGACC CCAAAGATG AAGGGCTGCT 180
 TCCAAACCTT TGACCTGGGC TGTCCAGATG AGAGCATCCA GCTTCAAATC TCACAGCAGC 240
 ACATCAACAA GAGCTTCAGG CAGGCAGTAT CACTCATTGT GGCTGTGGAG AAGCTGTGGC 300
 AGCTACCTGT GTCTTTCCCG TGGACCTTCC AGGATGAGGA CATGAGCACC TTCTTTTCCT 360
 TCATCTTTGA AGAAGAGCCC ATCCTCTGTG ACTCATGGGA TGATGATGAT AACCTGCTGG 420
 TGTGTGACGT TCCCATAGA CAGCTGCACT ACAGGCTCCG AGATGAACAA CAAAAAGCC 480

[illegible]

GCTGAGGGAC	TAGCCAGGAG	GGAGAACAGA	AACTCCAGAA	CATCCTGGAA	ATAGCTCCCA	60
GAAAAGCAAG	CAGCCAACCA	GGCAGGTTCT	GTCCCTTTCA	CTCACTGGCC	CAAGGCGCCA	120
CATCTCCCTC	CAGAAAAGAC	ACCATGAGCA	CAGAAAGCAT	GATCCGCGAC	GTGGAAGTGG	180
CAGAAGAGGC	ACTCCCCCAA	AAGATGGGGG	GCTTCCAGAA	CTCCAGGCGG	TGCCTATGTC	240
TCAGCCTCTT	CTCATTCCTG	CTTGTGGCAG	GGGCCACCAC	GCTCTTCTGT	CTACTGAACT	300
TCGGGGTGAT	CGGTCCCCAA	AGGGATGAGA	AGTTCCCCAA	TGGCCTCCCT	CTCATCAGTT	360

CTATGGCCCA GACCCTCACA CTCAGATCAT CTTCTCAAAA TTCGAGTGAC AAGCCTGTAG 420
 CCCACGTCGT AGCAAACCAC CAAGTGGAGG AGCAGCTGGA GTGGCTGAGC CAGCGCGCCA 480
 ACGCCCTCCT GGCCAACGGC ATGGATCTCA AAGACAACCA ACTAGTGGTG CCAGCCGATG 540
 GGTGTACCT TGTCTACTCC CAGGTTCTCT TCAAGGGACA AGGCTGCCCC GACTACGTGC 600
 TCCTCACCCA CACCGTCAGC CGATTTGCTA TCTCATACCA GGAGAAAGTC AACCTCCTCT 660
 CTGCCGTCAG GAGCCCCCTGC CCCAAGGACA CCCCTGAGGG GGCTGAGCTC AAACCTGGT 720
 ATGAGCCCAT ATACCTGGGA GGAGTCTTCC AGCTGGAGAA GGGGGACCAA CTCAGCGCTG 780
 AGGTCAATCT GCCCAAGTAC TTAGACTTTG CGGAGTCCGG GCAGGTCTAC TTTGGAGTCA 840
 TTGCTCTGTG AAGGGAATGG GTGTTTCATCC ATTCTCTACC CAGCCCCCAC TCTGACCCCT 900
 TTA CTCTGAC CCCTTTATTG TCTACTCCTC AGAGCCCCCA GTCTGTGTCC TTCTAACTTA 960
 GAAAGGGGAT TATGGCTCAG AGTCCAATC TGTGCTCAGA GCTTTCAACA ACTACTCAGA 1020
 AACACAAGAT GCTGGGACAG TGACCTGGAC TGTGGGCCTC TCATGCACCA CCACCCACGG 1080
 AATCGAGAAA GAGCTATCAA TCTGGAATTC ACTGGAGCCT CGAATGTCCA TTCCTGAGTT 1140
 CTGCAAAGGG AGAGTGGTCA GGTGTCCTCT GTCTCAGAAT GAGGCTGGAT AAGATCTCAG 1200
 GCCTTCCTAC CTTCAGACCT TTCCAGACTC TTCCCTGAGG TGCAATGCAC AGCCTTCCTC 1260
 ACAGAGCCAG CCCCCCTCTA TTTATATTTG CACTTATTAT TTATTATTTA TTTATTATTT 1320
 ATTTATTTGC TTATGAATGT ATTTATTTGG AAGGCCGGGG TGTCTCTGGAG GACCCAGTGT 1380
 GGGAAGCTGT CTTCAGACAG ACATGTTTTT TGTGAAAACG GAGCTGAGCT GTCCCCACCT 1440
 GGCCTCTCTA CTTTGTGTGCC TCCTCTTTTG CTTATGTTTA AAACAAAATA TTTATCTAAC 1500
 CCAATTGTCT TAATAACGCT GATTTGGTGA CCAGGCTGTC GCTACATCAC TGAACCTCTG 1560
 CTCCCCACGG GAGCCGTGAC TGTAATTGCC CTACGGGTCA TTGAGAGAAA TAAAGATCGC 1620
 TTGGAAAAG 1629

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4110 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Mus musculus

1000

GAGACTCTGG	CCCCACGGGA	CACAGTGTCA	CTGGTTTGAA	ACTTCTCAGC	CACCTTGGTG	60
AAGGGACTGA	GCTGTTAGAG	ACACTTCTGA	GGCTCCTCAC	GCTTGGGTCT	TGTTCACTCC	120
ACGGAGTAGC	CTAGTCAACT	GCAAGAGAAC	GGAGAACGTT	GGATTGAG	CAGAAGTGCA	180
AAGTCTCAGA	CATGGCTTGC	CCCTGGAAGT	TTCTCTTCAA	AGTCAAATCC	TACCAAAGTG	240
ACCTGAAAGA	GGAAAAGGAC	ATTAACAACA	ACGTGAAGAA	AACCCCTTGT	GCTGTTCTCA	300
GCCCAACAAT	ACAAGATGAC	CCTAAGAGTC	ACCAAAATGG	CTCCCCGCAG	CTCCTCACTG	360
GGACAGCACA	GAATGTTCCA	GAATCCCTGG	ACAAGCTGCA	TGTGACATCG	ACCCGTCCAC	420
AGTATGTGAG	GATCAAAAAC	TGGGGCAGTG	GAGAGATTTT	GCATGACACT	CTTCAACCACA	480
AGGCCACATC	GGATTTCACT	TGCAAGTCCA	AGTCTTGCTT	GGGGTCCATC	ATGAACCCCA	540
AGAGTTTGAC	CAGAGGACCC	AGAGACAAGC	CTACCCCTCT	GGAGGAGCTC	CTGCCTCATG	600
CCATTGAGTT	CATCAACCAG	TATTATGGCT	CCTTTAAAGA	GGCAAAAATA	GAGGAACATC	660
TGGCCAGGCT	GGAAGCTGTA	ACAAAAGGAAA	TAGAAACAAC	AGGAACCTAC	CAGCTCACTC	720
TGGATGAGCT	CATCTTTGCC	ACCAAGATGG	CCTGGAGGAA	TGTCCCTCGC	TGCATCGGCA	780
GGATCCAGTG	GTCCAACCTG	CAGGTCTTTG	ACGCTCGGAA	CTGTAGCACA	GCACAGGAAA	840
TGTTTCAGCA	CATCTGCAGA	CACATACTTT	ATGCCACCAA	CAATGGCAAC	ATCAGGTCGG	900
CCATCACTGT	GTTCCCCCAG	CGGAGTGACG	GCAAACATGA	CTTCAGGCTC	TGGAATTCAC	960
AGCTCATCCG	GTACGCTGGC	TACCAGATGC	CCGATGGCAC	CATCAGAGGG	GATGCTGCCA	1020
CCTTGAGATT	CACCCAGTTG	TGCATCGACC	TAGGCTGGAA	GCCCCGCTAT	GGCCGCTTTG	1080
ATGTGCTGCC	TCTGGTCTTG	CAAGCTGATG	GTCAAGATCC	AGAGGTCTTT	GAAATCCCTC	1140
CTGATCTTGT	GTTGGAGGTG	ACCATGGAGC	ATCCCAAGTA	CGAGTGGTTC	CAGGAGCTCG	1200
GGTTGAAGTG	GTATGCACTG	CCTGCCGTGG	CCAACATGCT	ACTGGAGGTG	GGTGGCCTCG	1260
AATTCCCAGC	CTGCCCCCTC	AATGGTTGGT	ACATGGGCAC	CGAGATTGGA	GTTGCGAGACT	1320
TCTGTGACAC	ACAGCGCTAC	AACATCCTGG	AGGAAGTGGG	CCGAAGGATG	GGCCTGGAGA	1380
CCCACACACT	GGCCTCCCTC	TGGAAAGACC	GGGCTGTCAC	GGAGATCAAT	GTGGCTGTGC	1440
TCCATAGTTT	CCAGAAGCAG	AATGTGACCA	TCATGGACCA	CCACACAGCC	TCAGAGTCCT	1500
TCATGAAGCA	CATGCAGAAT	GAGTACCGGG	CCCCTGGAGG	CTGCCCGGCA	GACTGGATTT	1560
GGCTGGTCCC	TCCAGTGTCT	GGGAGCATCA	CCCCTGTGTT	CCACCAGGAG	ATGTTGAACT	1620
ATGTCCTATC	TCCATTCTAC	TACTACCAGA	TCGAGCCCTG	GAAGACCCAC	ATCTGGCAGA	1680
ATGAGAAGCT	GAGGCCCAGG	AGGAGAGAGA	TCCGATTTAG	AGTCTTGGTG	AAAGTGGTGT	1740
TCTTTGCTTC	CATGCTAATG	CGAAAGGTCA	TGGCTTCACG	GGTCAGAGCC	ACAGTCCTCT	1800

[illegible]

(ii) MOLECULE TYPE: cDNA

- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GCTATCGACA AGCAGCAGAA T

21

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TGAACACAAC AACATAAAGC CC

22

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Mus musculus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TGTTATATCT GGTTATTATT GAATGG

26

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:

